

Appl. No.: 09/731,945
Amdt. dated 08/18/2006
Response to Office Action dated July 11, 2006

Amendments to the Claims:

Claims 1-12 (Canceled)

13. (Currently Amended) A double vacuum chamber resin infusion method for a preform comprising:

assembling a preform;

locating the preform on a mold;

sealingly bagging the preform to the mold with an inner bag forming a first vacuum chamber;

sealingly bagging the inner bag to the mold with an outer bag forming a second vacuum chamber;

evacuating the first vacuum chamber;

evacuating the second vacuum chamber with the pressure in the second vacuum chamber being equal to or greater than the pressure in the first vacuum chamber; and

infusing a resin into the preform using a vacuum-assisted resin transfer apparatus.

14. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 13 further comprising debulking the preform by evacuating at least the first vacuum chamber prior to infusing the resin.

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15. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 14 further comprising elevating the temperature of at least the first vacuum chamber and then evacuating at least the first vacuum chamber.
16. (Canceled)
17. (Canceled)
18. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 13 further comprising locating passive vacuum chambers within the first vacuum chamber.
19. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 13 further comprising tackifying the preform with a tackifier prior to bagging.
20. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 13 further comprising:
- locating a flow control media between the inner bag and the preform; and
- infusing the resin into the flow control media with the resin passing through the flow control media and then into the preform.

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21. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 20 wherein the flow control media includes fill fibers that act as weirs to the infusing resin.
22. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 13 further comprising locating a breather between the inner bag and the outer bag.
23. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 20 further comprising tilting the preform and the flow control media at an angle off horizontal and then infusing the resin into the flow control media with the resin passing through the flow control media and then into the preform.
24. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 23 wherein the tilted flow control media has a lowest point and infusing the resin into the flow control media at the lowest point.
25. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 13 further comprising coupling at least one vacuum pump to the first vacuum chamber via at least one first vacuum tube and coupling at least one vacuum pump to the second vacuum chamber via at least one second vacuum tube.

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26. (Previously presented) A double vacuum chamber resin infusion method for a preform according to claim 25 further comprising throttling the at least one first vacuum tube while infusing a resin into the preform.

27. (Amended) A double vacuum chamber resin infusion method for a preform according to claim 13 wherein:

the first vacuum chamber comprising a first space bounded by and including the inner bag and the mold; and

the second vacuum chamber comprising a second space bounded by and including the inner bag, the mold, and the outer bag.

Claims 28-33 (Withdrawn)

34. (New) A double vacuum chamber resin infusion method for a preform comprising:

assembling a preform;

locating the preform on a mold;

bagging the preform to the mold with an inner bag forming a first vacuum chamber;

bagging the inner bag to the mold with an outer bag forming a second vacuum chamber;

evacuating the first vacuum chamber;

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evacuating the second vacuum chamber such that the second vacuum chamber collapses
substantially against the first vacuum chamber; and

infusing a resin into the preform using a vacuum-assisted resin transfer apparatus.

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